

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of this application are respectfully requested in view of the remarks and arguments herein, which place the application into condition for allowance. The present response is being submitted to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-9, inclusive are currently pending. Claims 10-22 are hereby withdrawn, as directed to a non-elected species. Applicant affirms the election made by applicant's attorney on December 27, 2006 to prosecute herein method claims 1-9 as the elected invention. Claims 10-22, directed to the apparatus of this invention, are presumably withdrawn from consideration by the Examiner.

An amendment of inventorship is not required as a result of this election of the method claims.

II. DISCUSSION

The specification has been amended on page 3 hereof to correct minor errors, primarily of a grammatical nature, as will be evident.

Claims 1-9 are pending in this application and base Claim 1, from which Claims 2-9 depend, has been mended into order to correct minor grammatical errors and to provide greater lines of patentable distinction between the instant claimed invention and the combination of prior art references cited by the Examiner and applied to reject the claims under 35 U.S.C. 103(a).

With respect to Claim 1, the present amendments include the characterization of the lamina performs as “flexible” and that the second mold half is driven against the first mold half to form an “enclosed” mold cavity into which the molten substrate material is injected.

For reasons related hereinafter, this claim has also been amended to more specifically claim the step of “seating the performed lamina in the second cavity” beginning at line 12 of this claim. As now amended, Claim 1 and Claims 3-5 additionally call for this seating step as “leaving portions of said sidewalls adjacent the open end of said second cavity devoid of lamina and thereby exposed to injected substrate material”. Moreover, the step of injecting the polymeric material into the cavity has been amended to characterize the cavity as “enclosed” (line 17) and that the material is “substrate” injected against the “bottom surface of the performed lamina and the exposed sidewall portions” to provide consistency with the instant amendment of the previous “seating” step. The previously claimed “first cavity” (line 19) has been amended to call for this cavity to be “enclosed” for consistency, as well.

The terms “for a predetermined period of time” (lines 14 and 15) which were objected to as indefinite have been cancelled by this amendment.

The instant amendment of line 13 of Claim 1 to additionally call for the exposure of the second cavity sidewalls to substrate material is based on the instant description of the invention, for example, at Paragraphs [037] and [041] - [043] of the Specification with reference to corresponding drawing Figures 8, 9 and 11. As described herein, the depth and hence the strength of the molded substrate joining the central portion of the tile bearing the thermally-bonded lamina and the interlock tile edges is greater with an “offset” between the plane of thermal bonding and the parting line of the second mold.

Since the substrate material is typically a different color from the performed lamina it is preferred that the substrate not bypass the lamina during molding and appear on top surface of the product. Additionally, it is preferred that the planes of thermal bonding and the second parting lines be offset to prevent adhesive failures along the planes of substrate-to-lamina bonding.

As now described by amended Claim 1, both results are attainable by seating the lamina preform in the second cavity while leaving portions of the cavity sidewalls adjacent the cavity's open end devoid of the lamina, and hence exposed to the molten substrate (as are the remaining exposed portions of the second cavity). As illustrated by Fig. 11, the lamina preform, even with right-angled rims to inhibit lamina bypass during substrate injection, does not extend the full depth of the cavity sidewalls.

In the non-final office action Claims 1 and 3-5 were rejected under 35 U.S.C. 103(a) as unpatentable over Ricciardelli (USPN 6,306,318) in view of Visconti (USPN 6,093,272). In making the rejection, it is respectfully submitted that the Examiner mischaracterizes the Ricciardelli patent as disclosing a "composite" floor tile comprised of a polymeric "substrate". The Ricciardelli patent discloses an interlockable resilient floor tile for covering a substrate, such as a concrete plywood floor. It is disclosed as being a homogenous structure molded of a polymeric composition, not a composite of two dissimilar structures, one being a bottom substrate and the other a top-side lamina bonded to one another.

Thus, the Ricciardelli patent disclosure lacks the basic disclosure linkage to the secondary references on which the Examiner has based the rejection of claims 1-9 under 35 U.S.C. 103(a) and reconsideration of this rejection is respectfully solicited.

Considered singly, Visconti is distinguishable from the instant invention in that Visconti requires two preforms “18” and “42” (Figs. 7 and 8) with the preform 18 being the central preform for the “inner region 12” and the preforms 42 being the lamina preforms for the “region 14”. Because the “substrate material 20” is a “rigid material” (column 2, line 32) and provides a “rigid backing 52” for the panel 10 (column 2, lines 60-67) Visconti does not provide a disclosure or teaching of the claimed invention.

As mentioned previously, Claim 1 has also been amended to define the lamina as a “flexible” component of the tile molding process. For reasons pointed out in Paragraph [006] of the instant specification the Visconti process is inherently inefficient because it is a multiple step molding process requiring bonding of the lamina to the central support, and the subsequent bonding of the substrate top to that support.

Notable in Visconti is the fact that the lamina preforms 18 and 42 cover all portions of the cavity 48, Fig. 7, and because this substrate hardens to a “rigid backing 52” (column 2, line 66) there is no apparent nor disclosed reason for Visconti to be concerned about providing exposure of the sidewalls of cavity 48 (Fig. 7) to the molten substrate material to increase the strength of molded structure between central cavity 16 and outlying portions thereof.

As amended, it is submitted that Claim 1 and dependent Claims 3-5, are in condition for allowance.

Claim 2 is rejected as Claim 1 and further in view of Strappazzini (USPN 5,340,425) and like Visconti, Strappazzini does not bond a lamina to the substrate in the same molding operation used to mold the substrate (column 3, last paragraph to column 4, line 31). The laminated preform covers the central cavity sidewalls and the Strappazzini substrate material is selected to form a “rigid plastic molded substrate” (column 2, line 6; column 5, lines 64-66).

Strappazzini is not concerned with the insertion of a preformed flexible lamina of the instant claimed thickness range of 4 to 150 mils into a mold cavity without an underlying support structure. Reconsideration of the rejection on this tertiary reference is respectfully requested.

Rejected Claims 3-5 call for different respective parameters of substrate temperature (Claim 3); pressures (Claim 4) and mold closure times (Claim 5) as they relate to the process of base Claim 1, and further define the subject matter of amended Claim 1 which is believed to be patentable. Allowance of these dependent claims is also requested.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as unpatentable over Ricciardelli ('318) in view of Visconti, and further in view of Poorten (USPN 4,737,096).

Poorten is applied against claims 6-9 because they call for the application of vacuum pressure to retain the seated lamina in the second cavity before and after molding:

Poorten describes an injection molding process which molds audio information on a "nickel disc 5" into an injected plastic by closing the mold halves to impress the disc information, in track form, into the injected material. The nickel disc apparently remains in the mold to be used repeatedly to mold its digital information into other discs and is subject to replacement after repeated usage. Means are disclosed by Poorten for punching out holes in the molded discs.

It is apparent that the Poorten method is directed to molding a product which has no similarity to a laminated floor tile as claimed herein, and while Poorten and the instant invention both provide a vacuum as the method for retaining an object in an injection molding apparatus, that is where the similarity begins and ends.

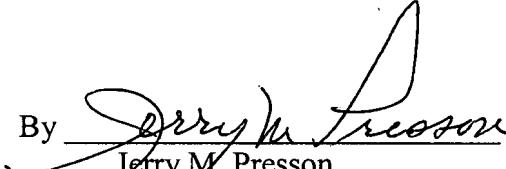
CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are in condition for allowance and Applicant respectfully requests early passage to issue of the present application.

Respectfully submitted,

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